

CĂTĂLIN AFRĂSINEI-ZEVOIANU

MANAGING THE CAPITAL INVESTMENT PROJECTS

Theory and practice

Presă Universitară Clujeană

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PRESA UNIVERSITARĂ CLUJEANĂ

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*To my lovely wife Andreea
and to my beautiful kids Serban and Alessia*

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1 The theory of investments

1.1 The concept of investments

Investments, especially capital investments, are a vital element of economic growth and development since they reflect economic growth's material foundation. Any process of upgrading or developing requires the provision of extra resources.

How do investments contribute to both economic growth and development? The first refers more to the macroeconomic component while the second is related to the microeconomic sphere of economy. Economic growth is mainly measured through macroeconomic indicators such as GDP (Gross Domestic Product). As investments are a component of GDP, the more investments are implemented in a given time period, the greater the GDP of that country becomes. At microeconomic level, companies mostly invest in their development which takes different facets such as technological progress, production expansion or specialization, diversification, and others, all of which ultimately lead to greater productivity, higher income, less waste and cost effectiveness.

To summarize, investments are microeconomic development generators which consequently will determine greater macroeconomic growth.

The term "investments" has many meanings and contents in economic theory. Essentially, the concept of "investments" can be approached in a broader/extended way, the economic way, as well as in a narrower orientation, the economic-financial way.

The extended approach of investments (Economic approach)

Investment refers to the placement (allocation) of money in domains such as economy, culture, and government (central and local) with the goal of ensuring the material base and labor force required to perform and even develop the activity of these domains.

According to Francois Aphtalion, investments are a voluntary abandonment of present money in favor of aspirations for future resources scattered across time.

DEX (Explanatory Dictionary of the Romanian Language) describes investments as the deployment of capital in industry, agriculture, or commerce for the aim of profit. In other words, investments are capital placements.

Investment, according to Pierre Masse, is the transformation of financial assets into material goods, and the outcome of such actions must be a good investment. In most cases, according to Masse, investments are a present and certain expenditure that will guide to future uncertain effects. From his perspective, any investment includes the following elements:

- **a subject:** the “person” who invests (the investor).
- **an object:** the goods/assets acquired or created (the investment project).
- **a cost:** the effort carried out to acquire the assets.
- **some effects:** include the economic outcomes of operating the investment object.

To summarize, investments are a certain and present expense that will generate future effects that must be treated under risk and uncertainty conditions.

Henri Peumans gives investments two senses:

- **strict sense:** investment is the use of financial resources to purchase manufacturing objects and equipment that will be used over a period of time.
- **extended sense:** aside from the previously mentioned elements, the purchase of raw materials is also included (“exaggerated” enlargement)

When it comes to investments, the United Nations Organization (UNO) uses two terms:

- **gross investments:** include the value of new fixed assets and capital repairs applied to operating fixed assets, the value increase of existing assets, the value increase of current assets, and the balance of foreign capital movement.
- **net investments:** gross investments excluding fixed assets amortization/depreciation.

The balance of foreign capital movement is the difference between money coming into a country as credits, emplacements, and direct investments on the one hand, and money leaving the country as credit payments and interest rates, profits, and repatriated capital invested on the other.

In the same context, of the complex definition of investments, there is the investment’s definition as a three-dimensional notion, namely: accounting dimension, economic dimension and financial dimension of investment.

The accounting dimension is considered a narrow dimension that reduces investments to the notion of fixed assets in the accounting sense of

the term. From this point of view all movable or immovable assets, tangible or intangible, acquired or created by an enterprise intended to remain permanently in the same form within the enterprise, constitute an investment.

The economic dimension of investments is considered to be wider than the accounting dimension and according to this, an investment means an assumed renunciation of present resources in the hope of obtaining future results or revenue laid out in time, in a total amount greater than the initial expenditure.

In addition to the durable character of the investment, the emphasis in this case is on its productive nature and as well as the risk associated with the future development of the investing process and its effects.

Finally, the financial dimension of investments is considered even broader than the economic dimension, and from this perspective, any expenditure that will generate revenue or savings over a long period of time or will be “reimbursed” over several years is considered an investment.

The restricted approach of investments (Economic-financial approach)

In this perspective, investments are an expense that include the total costs of purchasing or creating new fixed assets, replacing worn out capital, and improving the capital in use.

Finally, investments can be viewed as an expense, an advanced resource consumed in the present with future consequences. Investments, on the other hand, can be considered an activity or a process.

Investment costs are divided into two categories:

Main costs: are those directly linked to fixed assets, like:

- *purchasing cost* or the *costs of creating new capital* for new fixed assets
- *replacing costs* for worn-out assets
- *modernization costs* for in-use assets

Derived costs: are those costs that are not directly related to fixed assets, such as design costs, employee training costs, and so on.

Furthermore, investment costs include some categories that have no investment nature but support the investment process and are referred to as assimilated investment costs. For instance:

1. costs of explorations and prospecting of new deposits (resources), costs of drilling activities etc.
2. costs of preparing and designing the investment, including the following categories:
 - costs with scientific research
 - costs with field (land) analysis and prospection

- costs with licenses acquisition
- costs with technical assistance and installation of imported machines
- costs with technical documentation of investment
- etc.

Investments as a process contain specific work phases. These phases are:

- 1) **Investment demand:** It refers to the existence or emergence of a need that could be fulfilled by developing existing capacities or creating new ones. This demand is the catalyst for the investment process.
- 2) **Economic investing capacity:** It refers to the availability of financial, material, and human resources that could be used in the investment process.
- 3) **Investment decision:** the decision is based on investment demand, on the economic investing capacity and other rational criteria and constraints.

Characteristics of investment decision:

- it is a strategic decision, a long-term decision
- it is unique because the results of a decision could be corrected by making another decision based on different quantitative and qualitative conditions than the previous ones,

Investment decisions have the following 6 stages:

1. problem formulation and analysis
 2. briefing and documenting
 3. objectives and criteria setup
 4. variants identification and results determination for each variant
 5. selection of optimum solution from the available variants
 6. adopt the appropriate action plan.
- 4) **Investment planning:** It is about creating an action plan for the investment timeline and how it relates to other activity programs.
 - 5) **Resources allocation:** it's about getting the necessary funds and deciding on their time and space allocation. Resources are always limited. They must be well divided to generate maximum effects. The allocation of money for investment is a multidimensional process and it includes:
 - a) **Allocation by destination**, i.e. within a company with several subsidiaries one can start with a general investment budget that is divided on subunits of activity using the criteria of optimization such as maximization of profit, production, revenue or minimization of costs;

- b) Allocation per project*, i.e. after the budget is allocated at the subunit level, the selection of the project or projects that have priority to funding is performed, along with the amount of money that each of them will receive;
 - c) Allocation in time within the project*, i.e. the approved budget of the project is divided into annual and sub-annual periods (semester, quarter, month, etc.) according to the real needs determined by the constructive stages of the project.
- 6) Investment materialization:** It is all about making investment a reality, day by day.
- 7) Investment start-up and reaching the projected parameters:** it is about the time when the project is officially inaugurated, and the basic activity begins to produce the first effects. This moment marks the beginning of the project's functioning duration when the expected effects occur. At the beginning of this period, it is possible that the expected results cannot be achieved 100% for various reasons, such as additional adjustments of the machinery, and other technical, economic and organizational aspects. This special period is called *the period of reaching the projected parameters*, which generally negatively affects the performance and efficiency of the project.
- 8) Normal operating during the normal functioning period:** it refers to the longest period of the project's existence and generates the expected effects on the basis of which the project's efficiency is estimated.
- 9) Project shutdown:** is the end of the normal operating life when the project parameters no longer provide adequate performance. This is when the current project ends its lifecycle. At this point, an important decision must be made: either to continue operating the project, which is possible by initiating a new investment in modernization or closing the project permanently (project decommissioning).

The following diagram represents the investment process as a logical flow that any investor can follow:

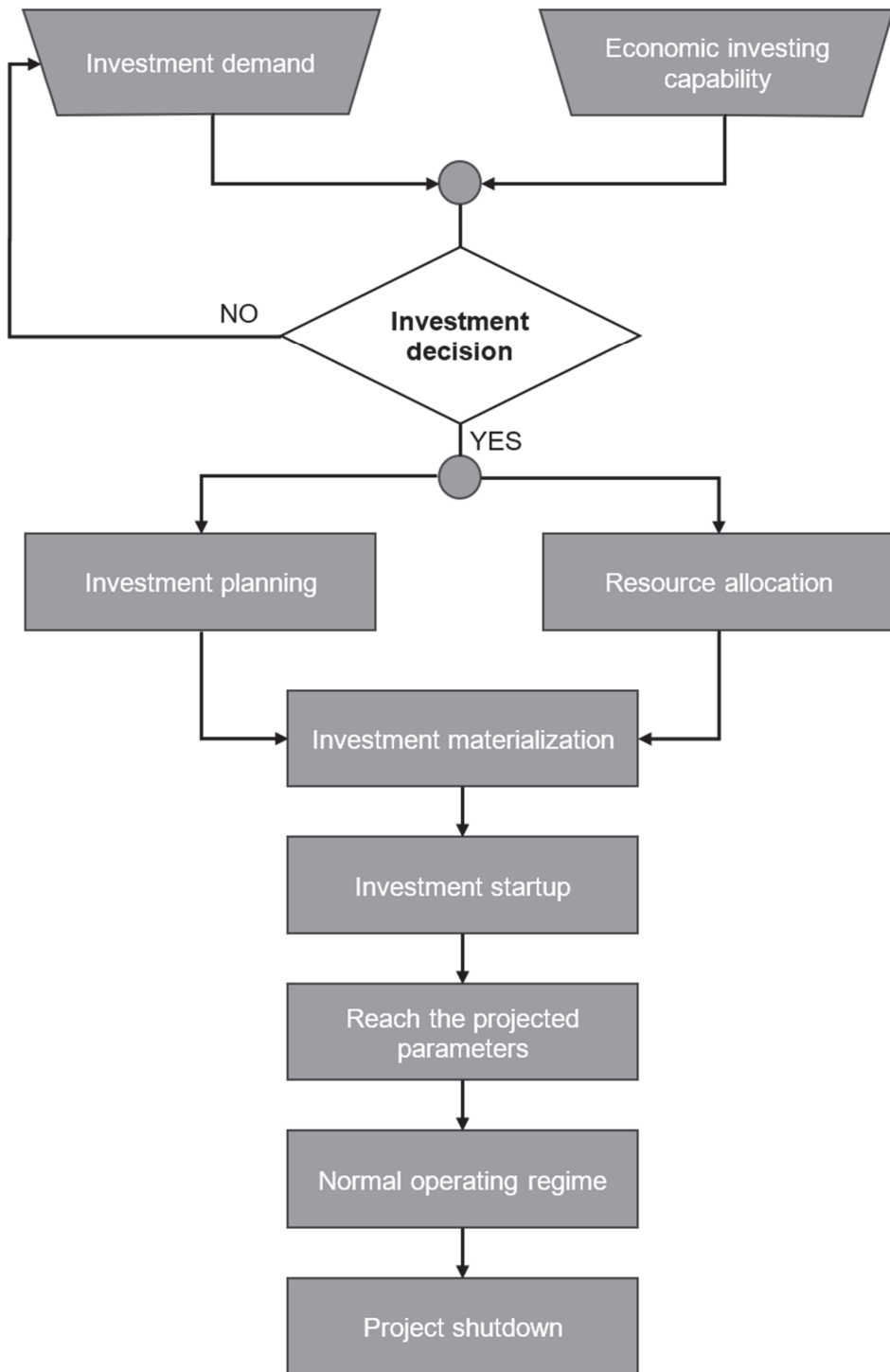


Figure 1.1 Diagram of investment process

The main characteristics of any corporal/capital investment are:

- a) *long time run*: the project itself will exist for many years. The two phases, construction and operation, might sometimes last tens of years.
- b) *risky*: the project itself implies specific risks and uncertainties. The future is always hardly predictable, and many unforeseen factors might occur and affect the project deployment. The initially estimated effects may be challenged by reality, forcing investors to take remedial steps, including severe ones. The investor accepts these risks in exchange for significant benefits from the project's operations over time.
- c) *profitability*: in general, the investment projects we are considering are profit-generating, as the net effect of their operation. Therefore, the profit obtained is an important starting point for the economic efficiency analysis of the project.

1.2 Investments typology

Investments seen as an expense have some consistency. When viewed as a process, investing has specific aspects that have implications on its management and efficiency. There are plenty of investment classifications. We present o part of them considering the most important criteria of classification:

1. Considering the nature or technological structure of investments:
 - a) Constructions
 - b) Acquisition of installations
 - c) Explorations and prospects
 - d) Other activities, including designing, land acquisition, labor force training.
2. Considering the type of investment works:
 - a) New constructions
 - b) Reconstructions
 - c) Replacements (of installations) with/without modernization
 - d) Expansion (development) with/without modernization
3. Considering the financing sources:
 - a) Own resources
 - b) Domestic or foreign loans
4. Considering the nature of property:
 - a) Public investments
 - b) Private investments
 - c) Mixed investments (public-private)

5. Considering the destination:
 - a) Productive investments
 - b) Non-productive investments

Observation: Non-productive investments could exist even in the productive sector (example: canteens, administrative buildings etc.)

6. Considering the way of attaining:
 - a) Under own direction
 - b) In partnership
 - c) Mixed
7. Considering the level of immobilization:
 - a) Finished (operating) investments
 - b) Unfinished (Ongoing) investments
8. Considering the importance of investments for the projected objective:
 - a) Direct investments: comprise works and basic equipment that contribute to the overall investment's goal fulfillment.
 - b) Collateral investments: works that are territorially and functionally linked to the direct investment (access roads, utilities abductions: water, energy, heating system)
 - c) Connected investments: appear as a propagated upstream or downstream effect of direct investment (example: a mill built nearby a breeding plant)
9. Considering the content of investment:
 - a) Tangible investments: investments in fixed and current assets
 - b) Intangible investments: investments in licenses, patents, brands, manufacturing procedures etc.
 - c) Financial investments: purchasing of shares, bonds, placements on end funds

The first two types are also called “capital investments”, which are specific to productive companies.

10. Considering the purpose of the investment:
 - a) maintaining the existing capacity
 - b) increasing the existing capacity
 - c) increasing the labor productivity
 - d) diversifying the production
 - e) harmonization with the existing legislation
 - f) improving the working environment
11. Considering the amplitude of the risk:
 - a) Low level investment risk (for maintaining the existing capacity, for increasing the labor productivity)
 - b) High level investment risk (expansion, development, with foreign partners)



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